

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A biosignal intensity ~~measuring method, processing~~
method to judge a bedding state of a subject, the method comprising:

 ~~outputting signals from a noninvasive sensor, which detects biosignals from a~~
 ~~lying subject;~~

 ~~amplifying and attenuating the biosignals~~ from a lying subject which have
 ~~been detected by a non-invasive sensor and attenuating noises~~ -with respect to noises- ~~other~~
 than the biosignals detected by the non-invasive sensor via a signal amplifying/shaping
 means;

 ~~controlling~~ subjecting the amplified biosignals ~~by to~~ an automatic gain control
 (AGC) means which controls gain such that the amplified biosignals are processed to have
 sizes within a prescribed range; and

 ~~outputting parameters acquired by signal gains in a control circuit upon~~
 ~~carrying out automatic gain control as output signal intensity of the controlled biosignals to~~
 ~~calculate biosignal intensity.~~

 calculating a biosignal intensity value by applying the controlled gain to a
 function that inversely relates the controlled gain with the biosignal intensity, such that the
 biosignal intensity is large when the controlled gain is small, and the biosignal intensity is
 small when the controlled gain is large.
2. (Currently Amended) The biosignal intensity ~~measuring processing~~ method
according to claim 1, wherein the signal amplifying/shaping means has ~~an amplifying a~~
characteristic that reduces a signal level of heartbeat signals and pulse signals in a bandwidth
other than the main bandwidth of the biosignals.

3. (Currently Amended) The biosignal intensity ~~measuring~~processing method according to claim 1, wherein the signal amplifying/shaping means has a band-pass filter that reduces a signal level of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the biosignals.

4. (Currently Amended) The biosignal intensity ~~measuring~~processing method according to claim 1, wherein when the size of ~~output from~~biosignals detected by the non-invasive sensor exceeds a prescribed range for more than a certain time, further including judging that a subject is making body motion.

5. (Currently Amended) A ~~bedding state judging method~~, method for judging a bedding state of a subject, said method comprising:

~~—outputting signals from a noninvasive sensor, which detects biosignals from a lying subject;~~

~~amplifying and attenuating the biosignals from a lying subject which have been detected by a non-invasive sensor and attenuating noises with respect to noises other than the biosignals detected by the non-invasive sensor~~ via a signal amplifying/shaping means;

~~controlling processing the biosignals by~~in an automatic gain control (AGC) means which controls gain such that the amplified biosignals are processed to acquire sizes within a prescribed range;

~~—calculating the parameters, acquired by signal gains in a control circuit upon carrying out automatic gain control, as the output signal intensity of the controlled signals;~~
and

~~—calculating a biosignal intensity value by applying the controlled gain to a function that inversely relates the controlled gain with the biosignal intensity, such that the~~

biosignal intensity is large when the controlled gain is small, and the biosignal intensity is small when the controlled gain is large;

judging a bedding state of the subject using a lying-state detection sensor for detecting whether a subject is lying in bed, wherein when (1) the lying-state detection sensor detects the subject lying in bed and (2) when the calculated biosignal intensity exceeds a first predetermined intensity, judging that the subject is in bed, and otherwise judging that the subject is out of bed;

~~using the calculated signal intensity to monitor the bedding state of the subject, including one or more of a state of being in or out of bed, weakening or stoppage of biosignals, and making body motion.~~

determining whether a newly calculated biosignal intensity exceeds a second predetermined intensity; and

judging that the subject is lying in bed in a normal condition when the newly calculated biosignal intensity exceeds the second predetermined intensity, judging that the subject is out of bed when the newly calculated biosignal intensity is less than or equal to the second predetermined intensity, and judging that the subject is in an abnormal condition when the newly calculated biosignal intensity is less than or equal to the second predetermined intensity and the lying-state detection sensor detects that the subject is lying in bed.

6. (Currently Amended) The ~~bedding state judging~~ method according to claim 5, wherein the signal amplifying/shaping means has ~~an amplifying~~ a characteristic that reduces a signal level of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the biosignals.

7. (Currently Amended) The ~~bedding state judging~~ method according to claim 5, wherein the signal amplifying/shaping means has a band-pass filter that reduces a signal level

of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the biosignals.

8. (Currently Amended) A bedding state monitoring device, comprising:

a noninvasive sensor that detects biosignals emitted by ~~from and body motion~~ of a lying subject;

a signal amplifying/shaping means for amplifying the biosignals detected by the non-invasive sensor, while attenuating that attenuates the noises other than the biosignals ~~included in the output signals from detected by~~ the noninvasive sensor;

a ~~non-bedding lying-state~~ detecting sensor for ~~confirming the subject's being out of bed~~ detecting whether a subject is lying in bed;

an automatic gain control (AGC) means that controls gain such that the amplified biosignals are processed ~~controls signals given by eliminating noises from output signals from the noninvasive sensor via the signal amplifying/shaping means so as to have~~ sizes within a prescribed range;

a ~~signal-biosignal~~ intensity calculating means that calculates a biosignal intensity value by applying the controlled gain to a function that inversely relates the controlled gain with the biosignal intensity, such that the biosignal intensity is large when the controlled gain is small, and the biosignal intensity is small when the controlled gain is large ~~that calculates parameters acquired by signal gains in the control circuit upon carrying out automatic gain control as an output signal intensity of said controlled signals; and~~

a ~~bedding-state-judging~~ means wherein, when the lying-state detecting sensor detects that the subject is lying in bed and when the calculated biosignal intensity exceeds a first predetermined intensity, judges that the subject is in bed, and otherwise judges that the subject is out of bed; and ~~that makes a judgment about the subject's being in or out of bed~~

~~and a weakening or stoppage of biosignals using a plurality of intensity signals or parameters calculated from the plurality of the intensity signals.~~

wherein, when the lying-state detection sensor detects that the subject is lying in bed and when a newly calculated biosignal intensity exceeds a second predetermined intensity, the judging means judges that the subject is lying in bed in normal condition, and when the newly calculated biosignal intensity is less or equal to than the second predetermined intensity and the lying-state detection sensor detects that the subject is not lying in bed, the judging means judges that the subject is out of bed; and when the newly calculated biosignal intensity is less than or equal to the second predetermined intensity and the lying-state detection sensor detects that the subject is lying in bed, the judging means judges that the subject is in an abnormal condition.

9. (Currently Amended) The bedding state monitoring device according to claim 8, wherein the signal amplifying/shaping means has ~~an amplifying~~ a characteristic that reduces the intensity level of heartbeat signals and pulse signals in a bandwidth other than a main bandwidth of the signals.

10. (Previously Presented) The bedding state monitoring device according to claim 8, wherein the signal amplifying/shaping means has a band-pass filter that reduces an intensity level of heartbeat signals and pulse signals in a bandwidth other than a main bandwidth of the signals.

11. (Previously Presented) The bedding state monitoring device according to claim 8, further comprising a body motion detecting means that detects body motion from the output of the noninvasive sensor, wherein the bedding state judging means monitors the occurrence of the body motion using output from the body motion detecting means.

12. (Previously Presented) The bedding state monitoring device according to claim 11, wherein the body motion detecting means judges that a subject is making body

motion when a size of output from the noninvasive sensor exceeds a prescribed range for more than a certain time.

13. (Previously Presented) The bedding state monitoring device according to claim 8, wherein the noninvasive sensor comprises a capacitor microphone for detecting micropressure, and a hollow, elastic tube or a hollow, elastic tube with an inserted core wire thinner than a hollowed part of the tube, the tube being connected to the microphone.

14. (Currently Amended) The bedding state monitoring device according to claim 8, wherein the ~~non-beddingly-lying-state~~ detecting sensor is a sensor for detecting weight.

15. (Currently Amended) The bedding state monitoring device according to claim 8, wherein the ~~non-beddingly-lying-state~~ detecting sensor is an infrared sensor.

16. (Currently Amended) A patient status sensing device, comprising:

- a pressure detecting element;
- a signal amplifying/shaping section, that removes noise from an output of the pressure detecting element;
- a gain control section that processes an output of the signal amplifying/shaping section by controlling gain so that the output of the signal amplifying/shaping section is processed into signals within a prescribed range;
- a body motion detecting calculating section; and
- a status judgment section that determines patient status based on inputs from the signal amplifying/shaping section, the body motion detecting calculating section, and the gain control section, where the input from the gain control section includes controlled gain.

17. (Previously Presented) The patient sensing device according to claim 16, further comprising an alarm device connected to the status judgment section.

18. (Previously Presented) The patient sensing device according to claim 16, further comprising an out-of-bed detecting sensor that provides another input into the status judgment section.

19. (Previously Presented) The patient sensing device according to claim 16, wherein the pressure detecting element comprises an elongated tube having a closed end at an end and a differential pressure sensor at the other end of the elongated tube.

20. (Previously Presented) The patient sensing device according to claim 19, wherein the elongated tube is arranged in a serpentine pattern between a patient and a surface upon which the patient lies.